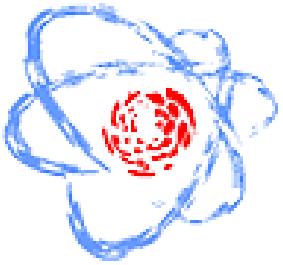

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First detection of solar neutrinos from the CNO cycle of thermonuclear reactions

Monday, 6 June 2022 13:10 (10 minutes)

Energy production in stars occurs in chains of thermonuclear reactions and is accompanied by emission of neutrinos which provide important information on the stellar interior. CNO cycle of thermonuclear reactions is believed to be the primary energy production mechanism in stars heavier than the Sun. In spite of playing a subdominant role in the Sun itself, it can still be observed through the detection of neutrinos produced in the CNO reactions. Additionaly, measurement of the CNO neutrino flux provides direct information on the solar metallicity - the abundance of heavy elements in the Sun. The first detection of CNO neutrinos has been recently performed by the Borexino collaboration. In this talk we report details of the dedicated data analysis.

Summary

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